

CLAIMS

1. A speech-enabled application, comprising one or more of the following:

a question control configured to provide a question function in the speech-enabled application;

an announcer control configured to provide an announcer function in the speech-enabled application;

a command control configured to provide a command and control function in the speech-enabled application;

a word trainer control configured to provide a word trainer function in the speech-enabled application; and

wherein each of the one or more controls utilizes a grammar to communicate with a speech system and each of the one or more controls may be utilized in more than one speech-enabled application to provide a standardized speech user interface to the speech-enabled applications.

2. The speech system as recited in claim 1, wherein the grammar utilized by a control further comprises a global grammar, terms for which the speech system always listens for unless the global grammar is de-activated by the control.

3. The speech system as recited in claim 1, wherein the grammar utilized by a control further comprises a yielding grammar that may be de-

1 activated by the speech system to allow another grammar to be active over the
2 yielding grammar.

3
4 4. The speech system as recited in claim 1, wherein the grammar
5 utilized by a control further comprises a persistent grammar that enables a speech-
6 enabled application utilizing the persistent grammar to be launched by the speech
7 system when the speech system recognizes a term that is included in the persistent
8 grammar.

9
10 5. The speech system as recited in claim 1, wherein the question
11 control is further configured to receive a custom prompt and to play the prompt in
12 a question from the speech system to a user.

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14 6. The speech system as recited in claim 5, wherein the question
15 control is further configured to receive a custom verbose prompt and, in the event
16 that an interaction using the custom prompt is interrupted, to play the verbose
17 prompt in a question from the speech system to the user when the interaction
18 resumes processing.

19
20 7. The speech system as recited in claim 6, wherein the question
21 control is further configured to repeat the custom prompt in place of the verbose
22 prompt if the verbose prompt has a null value.

1 8. The speech system as recited in claim 5, wherein the question
2 control comprises an earcon property that, when utilized by a speech-enabled
3 application, causes a sound file to be played before the custom prompt is played.
4

5 9. The speech system as recited in claim 1, wherein the question
6 control comprises an interrupting property that, when utilized by a speech-enabled
7 application, causes an interaction created by the question control to be processed
8 immediately upon being submitted to the speech system.
9

10 10. The speech system as recited in claim 1, wherein the question
11 control is further configured to provide a list of possible answers to the question
12 after the custom prompt is played.
13

14 11. The speech system as recited in claim 10, wherein:
15 the list of possible answers is programmed into the question control, and
16 at least one of the possible answers is specified to play a pre-recorded
17 string.
18

19 12. The speech system as recited in claim 10, wherein:
20 the list of possible answers is programmed into the question control, and
21 at least one of the possible answers is specified to play a distinct TTS
22 string.
23

24 13. The speech system as recited in claim 10, wherein the list of possible
25 answers is programmed into the question control.

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2 14. The speech system as recited in claim 10, wherein the list of possible
3 answers is provided by the speech-enabled application that incorporates the
4 question control.

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6 15. The speech system as recited in claim 1, wherein the question
7 control is further configured to provide audible feedback after receiving a user
8 response to a question to indicate that a valid response to the question was
9 received.

10
11 16. The speech system as recited in claim 15, wherein the audible
12 feedback is a tone.

13
14 17. The speech system as recited in claim 15, wherein the audible
15 feedback is an announcement that repeats the valid response.

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17 18. The speech system as recited in claim 1, wherein the announcer
18 control is further configured to translate an electronic mail message to speech.

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20 19. The speech system as recited in claim 1, wherein the announcer
21 control is further configured to play an announcement regarding an occurrence of
22 an event upon occurrence of the event.

1 20. The speech system as recited in claim 1, wherein the announcer
2 control is further configured to repeat an announcement in response to a repeat
3 command from a user.
4

5 21. The speech system as recited in claim 1, wherein the announcer
6 control is further configured to interrupt a currently processing interaction when
7 an interaction created by the announcer control is submitted to the speech system.
8

9 22. The speech system as recited in claim 1, wherein the announcer
10 control is further configured to abort an announcement interaction created by the
11 announcer control when the announcement interaction is interrupted by another
12 interaction.
13

14 23. The speech system as recited in claim 1, wherein the announcer
15 control is further configured to restart an announcement interaction created by the
16 announcer control after the announcement interaction is interrupted by another
17 interaction.
18

19 24. The speech system as recited in claim 1, wherein the announcer
20 control is further configured to play a sound file before playing an announcement.
21

22 25. The speech system as recited in claim 1, wherein the announcer
23 control is further configured to provide a delay after playing an announcement.
24
25

1 26. The speech system as recited in claim 1, wherein the command
2 control is further configured to provide a way for a speech-enabled application to
3 specify a speech grammar for the speech-enabled application to use.

4
5 27. The speech system as recited in claim 1, wherein the command
6 control is further configured to provide a method for supporting a dynamic
7 grammar.

8
9 28. The speech system as recited in claim 1, wherein the command
10 control is further configured to provide a method for supporting a global grammar.

11
12 29. The speech system as recited in claim 1, wherein the command
13 control is further configured to provide a method for supporting a yielding
14 grammar.

15
16 30. The speech system as recited in claim 1, wherein the command
17 control is further configured to provide a method for supporting a persistent
18 grammar.

19
20 31. The speech system as recited in claim 1, wherein the word trainer
21 control is further configured to cause the speech system to:
22 play a custom prompt to a user;
23 wait for a response from the user; and
24 record the response from the user.
25

1 The speech system as recited in claim 31, wherein the word trainer control is
2 further configured to cause the speech system to associate the recorded response
3 from the user with a string stored in memory of the speech system.

4 32. The speech system as recited in claim 31, wherein the word trainer
5 control is further configured to cause the speech system to play a sound file after
6 playing the custom prompt.

7
8 33. The speech system as recited in claim 31, wherein the word trainer
9 control is further configured to cause the speech system to provide user feedback
10 after recording the response from the user.

11
12 34. A speech control, comprising:
13 a grammar that is used by a speech-enabled application containing the
14 speech control to communicate with a speech system on which the speech-enabled
15 application executes;

16 computer-executable instructions that are portable between speech-enabled
17 applications;

18 wherein the speech control provides standardized user interface behavior to
19 each speech-enabled application in which it is included.

20
21 35. The speech control as recited in claim 34, wherein the grammar used
22 by the speech control is a global grammar that takes precedence over yielding
23 grammars used with the speech system, the global grammar being active unless it
24 is de-activated by the speech-enabled application that includes the speech control.

1 36. The speech control as recited in claim 34, wherein the grammar used
2 by the speech control is a persistent grammar that the speech system uses to launch
3 the speech-enabled application that includes the speech control when an utterance
4 belonging to the persistent grammar is recognized and the speech-enabled
5 application that includes the speech control is not loaded into the speech system.
6

7 37. The speech control as recited in claim 34, wherein the speech control
8 further comprises a question control that provides a standardized way of
9 interacting with the user through standard question formats.
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11 38. The speech control as recited in claim 34, wherein the speech control
12 further comprises an announcer control that provides a standardized way of
13 interacting with the user through standard announcement formats.
14

15 39. The speech control as recited in claim 34, wherein the speech control
16 further comprises a word trainer control that provides a standardized way of
17 interacting with the user through standard word training formats.
18

19 40. The speech control as recited in claim 34, wherein the speech control
20 further comprises a command control that provides a standardized way of
21 interacting with the user through standard command and control formats.
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